State of Utah

Department of
Environmental Quality

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Executive Director

DIVISION OF AIR QUALITY
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DAQE-IN0141110001-08

April 21, 2008

Brian Macke
Delta Petroleum Corporation
370 17th Street, Suite 4300
Denver, Colorado 80202

Dear Mr. Macke:

Re: Intent to Approve: Greentown Natural Gas Processing Plant, Grand County – CDS A; ATT; NSPS; MACT; HAPS; TITLE V MAJOR
Project Code: N014111-0001

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any questions you may have on this project to Mr. Tim De Julis. He may be reached at (801) 536-4012.

Sincerely,

Ty Howard, Manager
New Source Review Section

TY:TDJ:kw

cc: Southeastern Utah District Health Department

Mike Owens, EPA Region VIII

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Greentown Natural Gas Processing Plant

Prepared By: Tim De Julis, Engineer
(801) 536-4012
Email: tdejulis@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0141110001-08

Date: April 21, 2008

Delta Petroleum Corporation

Source Contact
Brain Macke
(303) 293-9133

M. Cheryl Heying
Executive Secretary
Utah Air Quality Board

Abstract

Delta Petroleum Corporation has requested permission to construct and operate a natural gas processing plant near the Greentown gas well site. This remote natural gas processing plant located in Grand County will consist of five 1,280 horsepower compressor engines, two 436 horsepower compressor engines, one 797 kW power generation engine, one 1.079 MW power generation engine, a dehydration unit, a Carbon Dioxide removal unit, a heated production unit (oil heater), several pressurized natural gas liquid (NGL) storage tanks, a gas refrigeration unit, and a flare device. The Greentown natural gas processing plant will produce as much as 25,000,000 cubic feet of natural gas per day.

Grand County is an attainment area of the National Ambient Air Quality Standards (NAAQS) for all pollutants. New Source Performance Standards (NSPS) (Subpart A, Subpart Dc, Subpart KKK, Subpart JJJJ, and Subpart KKKK), Maximum Achievable Control Technology (MACT) regulations (40 CFR 63 Subpart ZZZZ), and Title V of the 1990 Clean Air Act apply to this new major source. National Emission Standards for Hazardous Air Pollutants (NESHAP) do not apply to this source. This major source requires a Title V operating permit. Delta Petroleum Corporation shall apply for the Title V operating permit within 365 days from the date of this Approval Order.

The emissions, in tons per year, will be as follows:

PM_{10} = 1.00, NO_x = 142.88, SO_2 = 0.44, CO = 45.83, VOC = 59.35, HAPs = 8.87

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notice of intent to approve will be published in the Times Independent Printing on April 24, 2008. During the public comment period the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

General Conditions:

1. This AO applies to the following company:

   Corporate Office Location

   Delta Petroleum Corporation
   370 17th Street, Suite 4300
   Denver, Colorado 80202

Phone Number (303) 293-9133
Fax Number (303) 298-8251

The equipment listed in this AO shall be operated at the following location:

Remote Grand County location
Greentown natural gas processing plant, located in remote Grand County, Section 32, T22S, R18E (see the map on file)

Directions to Site

From Crescent Junction, Utah travel west along Interstate 70 for approximately 6.5 miles, to exit 175. Travel south along Ten Mile Road for another 5.3 miles (stay to the east of the only fork in the road). The Greentown natural gas processing plant is visible from the road at this point.

Universal Transverse Mercator (UTM) Coordinate System: UTM Datum NAD 1927
4,301,619 meters Northing, 590,393 meters Easting, Zone 12

2. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.

3. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.

4. Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved in accordance with R307-401.

5. All records referenced in this AO or in applicable NSPS or MACT standards, which are required to be kept by the owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request. All records shall be kept for minimum five-year period.

6. Delta Petroleum Corporation (Delta Petroleum) shall install the equipment listed in condition #7 and conduct its operations of the Greentown natural gas processing plant in accordance with the terms and conditions of this AO, which was written pursuant to Delta Petroleum's Notice of Intent submitted to the Division of Air Quality (DAQ) on January 24, 2008 and additional information submitted to the DAQ on March 4, 2008, April 7, 2008, April 11, 2008, and April 14, 2008.

7. The approved installations shall consist of the following equipment (or equivalent*):

A. Five (5) Internal Combustion Compressor Engines (E-1 through E-5) ***

Fuel:	Natural gas
Site rating:	1,280 hp - each
Attached control device:	Catalytic converter at the engine exhaust stack

B. Two (2) Internal Combustion Compressor Engines (E-6, E-7) ***

Fuel:	Natural gas
Site rating:	436 hp - each
Attached control device:	Catalytic converter at the engine exhaust stack

C. One (1) Internal Combustion Power Generation Engine (GEN-1) ***

Fuel:	Natural gas
Site rating:	797 kW
Attached control device:	Catalytic converter at the engine exhaust stack

D. One (1) Power Generation Turbine (GEN-2) ****

Fuel:	Natural gas
Site rating:	1.078 MW

E. One (1) Flare (FLARE-1)

Fuel:	Vapor collection system off-gas
Burner Capacity:	834,000,000 Btu/hr
Attached equipment:	self-detecting, auto-ignite pilot flame

F. One (1) Gas Conditioning Refrigeration Unit

Attached Equipment: Various Pressurized Storage Tanks (Item #7-J)

G. One (1) Amine Unit (AMINE-1)

Heat provided by item 7-I below
Attached equipment: Item 7-L below

H. One (1) Natural Gas Dehydrator (DEHY-1)

Heat provided by item 7-I below
Attached equipment: Item 7-L below

I. One (1) Process Heater Unit (HEATER -1) *****

Fuel:	Natural gas
Burner Capacity:	16,200,000 Btu/hr

J. Three (3) Pressurized Storage Tanks

Service:	Natural gas condensates
Capacity:	30,000 gallons – each

K. Two (2) Storage Tank (T-1, T-2)

Service:	Water, Oil, or miscellaneous solids
Capacity:	16,800 gallons – each

L. Vapor Collection Process Units consisting of: **

Various filters
Various heat exchangers
Various absorber columns
Various condenser columns
Various knock-out drums, flash drums, stabilization tanks

* Equivalency shall be determined by the Executive Secretary.
** This equipment is listed for informational purposes only.
*** 40 CFR 60 Subpart JJJJ, 40 CFR 63 Subpart ZZZZ[1]
**** 40 CFR 60 Subpart KKKK
***** 40 CFR 60 Subpart Dc

8. The vapor collection system shall control process streams from the vapor collection process units, the gas conditioning system, the process safety relief valves, the compressor blow-down system, and the enclosed drain system. All exhaust air from these processes shall be routed through the vapor collection system before being returned to the pressurized storage tanks or exhausted to the flare device.

9. The flare device shall control process exhaust streams from the vapor collection system. All exhaust air from the vapor collection system shall be routed through and combusted within the flare device before being vented to the atmosphere.

10. All active, actuated process control devices shall employ air as the motive gas. Under no circumstances shall the process off-gas be used as the motive gas within any of the actuated process control devices.

11. Delta Petroleum shall notify the Executive Secretary in writing when the installation of the equipment listed in Condition #7 has been completed and is operational. To insure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If the construction and/or installation are complete within eighteen months from the date of this AO, the Executive Secretary shall be notified in writing on the status of the construction and/or installation. At that time, the Executive Secretary shall require documentation of the continuous construction and/or installation of the operation and may revoke the AO in accordance with R307-401-18.

Limitations and Tests Procedures

12. Emissions to the atmosphere at all times from the indicated emission point(s) shall not exceed the following rates and concentrations:

1 40 CFR 63 Subpart ZZZZ does not apply to item 8-B

Source: (E-1 through E-5)

Pollutant	lb/hr	ppmdv (15% O_2 dry)
NO_x	4.23	91.1
CO	1.37	48.5
VOC	0.40	7.9

Source: (E-6 and E-7)

Pollutant	lb/hr	ppmdv (15% O_2 dry)
NO_x	1.92	118.1
CO	0.38	38.4
VOC	0.14	7.9

Source: (GEN-1)

Pollutant	lb/hr	ppmdv (15% O_2 dry)
NO_x	3.53	104.2
CO	1.26	61.1
VOC	0.37	10.1

Source: (GEN-2)

Pollutant	lb/hr	ppmdv (15% O_2 dry)
NO_x	2.48	65.0
CO	0.27	48.0

13. Stack testing to show compliance with the emission limitations stated in the above condition shall be performed as specified below:

A.

Emissions Point	Pollutant	Testing Status	Test Frequency
E-1 through E-5 Compressor Engines	NO_x	*	@
	CO	*	@
	VOC	*	@
E-6 and E-7 Compressor Engines	NO_x	*	@
	CO	*	@
	VOC	*	@

GEN-1	NO_x	*	@
Power Generator Engine	CO	*	@
	VOC	*	@
GEN-2	NO_x	*	@
Power Generator Turbine	CO	*	@

B. Testing Status

* Initial compliance testing is required. The initial test shall be performed as soon as possible and in no case later than 180 days after the start up of a new emission source. A compliance test is required on the emission point that has an emission rate limit.

@ Compliance test at least once every two years or perform annual portable analyzer testing, subsequent to the initial compliance test. The Executive Secretary may require testing at any time.

C. Notification

The Executive Secretary shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary.

The source test protocol shall be approved by the Executive Secretary prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary.

D. Sample Location

The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location.

E. Volumetric Flow Rate

40 CFR 60, Appendix A, Method 2 or other testing methods approved by the Executive Secretary.

F. Nitrogen Oxides (NO_x)

40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, 7E, or other testing methods approved by the Executive Secretary.

G. Carbon Monoxide (CO)

40 CFR 60, Appendix A, Method 10, or other testing methods approved by the Executive Secretary.

H. Volatile Organic Compounds (VOCs)

40 CFR 60, Appendix A, Method 25, 25A, or, other testing methods approved by the Executive Secretary.

I. Calculations

To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary, to give the results in the specified units of the emission limitation.

J. New Source Operation

For a new source/emission point, the production rate during all compliance-testing shall be no less than 90% of the production rate listed in this AO. If the production rate listed in this AO has not been achieved at the time of the test, then method-testing shall be conducted at no less than 90% of the maximum production rate achieved as of the date of the test.

K. Existing Source Operation

For an existing source/emission point, the production rate during all compliance-testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

L. Internal Combustion Engines

Portable testing analyzers may be used to test natural gas fired IC engines. If portable analyzer testing is employed, a correlation must be established during the initial tests between the portable testing analyzer and Method 7, 7A, 7B, 7C, 7D, 7E, and 10. The portable analyzer must be calibrated as per the manufacturer's specification prior to each test. Notification of each annual portable test must be provided as per condition 13.C above.

14. Visible emissions from any stationary point or fugitive emission source associated with the source or with the control facilities shall not exceed 10% opacity. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9.

Fuels

15. The owner/operator shall use pipeline quality natural gas as fuel in the compressor engines, power generator engine, power generator turbine, and boilers.

Federal Limitations and Requirements

16. In addition to the requirements of this AO, all applicable provisions of 40 CFR 60, New Source Performance Standards (NSPS) Subpart A, 40 CFR 60.1 to 60.18, Subpart Dc, 40 CFR 60.40c to 60.48c (Standards of Performance for Standards of Performance for Small

Industrial-Commercial-Institutional Steam Generating Units), Subpart KKK, 40 CFR 60.630 to 60.636 (Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants), Subpart JJJJ, 40 CFR 60.4230 to 60.4248 (Standards of Performance for Stationary Spark Ignited Internal Combustion Engines), and Subpart KKKK, 40 CFR 60.4305 to 60.4420 (Standards of Performance for Stationary Combustion Turbines) apply to this installation.

17. In addition to the requirements of this AO, all applicable provisions of 40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart A, 40 CFR 63.1 to 63.15 (General Provisions) and Subpart ZZZZ, 40 CFR 63.6580 to 63.6675 (National Emission Standard for Reciprocating Internal Combustion Engines) apply to this installation.

Records & Miscellaneous

18. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on the information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on the equipment authorized by this AO shall be recorded.

19. The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring.

20. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.

The Executive Secretary shall be notified in writing if the company is sold or changes its name.

This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including R307.

A copy of the rules, regulations and/or attachments addressed in this AO may be obtained by contacting the Division of Air Quality. The Utah Administrative Code R307 rules used by DAQ, the Notice of Intent (NOI) guide, and other air quality documents and forms may also be obtained on the Internet at the following web site:

http://www.airquality.utah.gov/

The annual emissions estimations below include point source and fugitive emissions, and do not include fugitive dust, road dust, tail pipe emissions, or grandfathered emissions. These emissions are for the purpose of determining the applicability of Prevention of Significant Deterioration, non-attainment area, Maintenance area, and Title V source requirements of the R307. <u>They are not to be used for determining compliance</u>.

The Potential To Emit (PTE) emissions for Greentown natural gas processing plant are currently calculated at the following values:

	Pollutant	Tons/yr
A.	PM_{10}	1.00
B.	NO_x	142.88
C.	SO_2	0.44
D.	CO	45.83
E.	VOC	59.35
F.	HAPs	
	Benzene	1.08
	Formaldehyde	2.38
	Other HAPs	5.41
	(Ethyl Benzene, n-Hexane, Toluene, Xylenes, Ethylene Glycol Di-Ethyl Amine, other products of incomplete combustion)	
	Total HAPs	8.87

The DAQ is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final AO.

Sincerely,

Ty Howard, Manager
New Source Review Section